organic compounds to a sulfur-containing material of higher molecular weight through alkylation by the olefins, thereby forming an initial product stream; and

in a subsequent contacting stage and at temperatures at least 10 C lower than the average of the elevated temperatures in the first contacting stage, contacting at least a portion of the initial product stream with an acidic catalyst under conditions which are effective to convert a portion of the sulfur-containing organic compounds to a sulfur-containing material of higher molecular weight through alkylation by the olefins, thereby forming a subsequent product stream.

Please replace Claim 2 with the following:

2. (Amended) The process of claim 1 wherein the feedstock is comprised of a naphtha from a catalytic cracking process and/or a thermal cracking process.

Please replace Claim 11 with the following:

11. (Amended) A process for the production of products which are liquid at ambient conditions and have a reduced content relative to the feedstock, which process comprises:

providing a feedstock comprising a mixture of hydrocarbons which includes olefins and sulfur-containing organic compounds, the feedstock consisting essentially of material boiling between about 60° C. and about 345° C. and having a sulfur content up to about 5,000 parts per million;

passing the feedstock through a bed of solid adsorbent, under conditions suitable for adsorption within the bed, to effect selective adsorption and/or complexing of at least a portion of the contained nitrogen-containing organic compounds with the adsorbent, and thereby obtain effluent from the bed which contains less nitrogen-containing organic compounds than the feedstock;

in an initial contacting stage at elevated temperatures, contacting the feedstock with an acidic catalyst under conditions which are effective to convert a portion of the sulfur-containing organic compounds to a sulfur-containing material of higher molecular weight through alkylation by the olefins, thereby forming an initial product stream;

in a subsequent contacting stage and at temperatures at least 10 C lower than the average of the elevated temperatures in the first contacting stage, contacting at least a portion of the initial product stream with an acidic catalyst under conditions which are effective to convert a portion of the sulfur-containing organic compounds to a sulfur-containing material of higher

molecular weight through alkylation by the olefins, thereby forming a subsequent product stream; and

fractionating the subsequent product stream by distillation to provide at least one low boiling fraction consisting of a sulfur-lean, fraction having a sulfur content less than about 50 ppm, and a higher-boiling fraction consisting of a sulfur-rich, fraction containing the balance of the sulfur.

Please replace Claim 17 with the following:

17. (Amended) The process of claim 11 wherein the one low-boiling fraction has a distillation end point and the high-boiling fraction has an initial boiling point such that the distillation end point and the initial boiling point are in the range from about 80° C to about 220° C.

Please replace Claim 18 with the following:

18. (Amended) The process of claim 11 wherein the high-boiling fraction has a distillation end point which is below about 249° C.

Please replace Claim 19 with the following:

19. (Amended) A process for the production of products which are liquid at ambient conditions and contain organic compounds of higher molecular weight than corresponding sulfur-containing compounds in the feedstock, which process comprises:

providing a feedstock comprising a mixture of hydrocarbons which includes olefins and sulfur-containing organic compounds, the feedstock consisting essentially of material boiling between about 60° C. and about 345° C. and having a sulfur content up to about 5,000 parts per million;

in an initial contacting stage at elevated temperatures, contacting the feedstock with an acidic catalyst under conditions which are effective to convert a portion of the sulfur-containing organic compounds to a sulfur-containing material of higher molecular weight through alkylation by the olefins, thereby forming an initial product stream;

in a subsequent contacting stage and at temperatures at least 10 C lower than the average of the elevated temperatures in the first contacting stage, contacting at least a portion of the initial product stream with an acidic catalyst under conditions which effective to convert a portion of the sulfur-containing organic compounds to a sulfur-containing material of higher

molecular weight through alkylation by the olefins, thereby forming a subsequent product stream;

fractionating the subsequent product stream by distillation to provide at least one low boiling fraction consisting of a sulfur-lean, fraction having a sulfur content less than about 50 ppm, and a higher-boiling fraction consisting of a sulfur-rich, mono-aromatic-lean fraction containing the balance of the sulfur;

treating the high-boiling fraction with a gaseous source of dihydrogen at hydrogenation conditions in the presence of a hydrogenation catalyst which exhibits a capability to enhance the incorporation of hydrogen into one or more of the sulfur-containing organic compounds and under conditions suitable for hydrogenation of one or more of the sulfur-containing organic compounds; and

recovering a high-boiling liquid having a sulfur content less than about 50 parts per million.

Please cancel Claim 25.